

Remarks

Entry of this proposed Amendment is respectfully requested. No new matter is added by this Amendment and no new issues have been raised. Applicants respectfully submit that the claim amendment place the claims in condition for Allowance.

Claims 1, 3-7, 10, 11 and 13-17 are pending in the present application and stand rejected. With respect to this Amendment, claim 1 is amended by this Amendment and claim 3 has been canceled. Reconsideration of the rejections and allowance of the application are respectfully requested.

Claim Rejections – 35 U.S.C. § 103

With respect to the present Office action, claims 1, 3-7, 10, 11 and 13-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable in view of a combination of U.S. Patent Nos. 4,547,135 (“Noel”); 5,096,389 (“Grady”); 4,079,278 (“Luneau”) and 5,246,349 (“Hartog”). To establish a *prima facie* case of obviousness under Section 103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. M.P.E.P. § 2143. The Office’s rejections do not meet the above criteria.

Claim 1 has been amended to include the subject matter of claim 3. As amended, claim 1 recites a compressor and driving motor assembly, in which the motor is a hybrid permanent magnet motor providing an induction mode and a permanent magnet mode and comprises a rotor and a stator assembly, and the compressor is a rotary screw air compressor comprising a main body supporting first and second interengaged compressor rotors, and a substantially horizontal drive shaft having first and second portions, as well as other limitations. None of the references cited teach or suggest a compressor and driving motor assembly as recited in amended claim 1.

As stated in the present Office action, Noel does not teach a rotary screw air compressor, and the combination of Noel and Grady do not teach a driving motor being a hybrid permanent motor providing an induction mode and a permanent magnet mode. Applicant contends that the

combination of Noel, Grady and Luneau does not teach the claimed invention recited in amended claim 1.

The motor pump unit taught by Noel includes a slot-barrel motor that requires resin to cool the motor. The hollow spaces in the stator part between the barrel slot, the windings and iron core and the casing wall are filled with the casting resin. The resin increases heat conductivity within the motor, whereby the heat created in the windings is safely conducted away. Furthermore, the axially extending bore vents liquid from the interior of the pump casing into the interior of the motor's stator to cool the motor. See Noel, col. 3, line 14-col. 4, line 2. Accordingly, Noel teaches an intricate cooling system due to the motor's design and also teaches a motor that is not easily accessible due to the cooling system.

The compressor and driving motor assembly of amended claim 1 does not require an intricate cooling system. This assembly of amended claim 1 can simplify the cooling system since the motor stator is open on both ends. Therefore, the assembly of amended claim 1 utilizes convective air ventilation to cool the components. Accordingly, a new type of motor technology is required for high horsepower, air ventilated applications. The use of a hybrid permanent magnet motor as the driving motor in the assembly of claim 1 provides the necessary power density for a compact rotor suitable for cantilever design that can be cooled by convective air ventilation. This design also allows the motor and components to be easily accessible.

Therefore, the combination of Noel, Grady and Luneau does not teach or suggest a compressor and driving motor assembly, in which the motor is a hybrid permanent magnet motor providing an induction mode and a permanent magnet mode and comprises a rotor and a stator assembly, and the compressor is a rotary screw air compressor, as recited in amended claim 1. Accordingly, amended claim 1 includes allowable subject matter and the rejection of the claim should be withdrawn.

Claims 3-7 depend from amended claim 1 and are allowable for the same reasons as amended claim 1, as well as other reasons which, for the sake of brevity, are not discussed.


Claim 10 recites a rotary screw air compressor and driving motor assembly wherein the driving motor is a hybrid permanent magnet motor providing an induction mode and a permanent

magnet mode. As mentioned previously, the systems of Noel and also Hartog require complex cooling systems to dissipate heat from the motor. The compressor and driving motor assembly of claim 10 also includes a simple cooling system of air ventilation through the use of the hybrid permanent magnet motor. Therefore, the cited references do not teach or suggest a rotary screw air compressor and driving motor assembly in which the driving motor is hybrid permanent magnet motor as recited in claim 10. Accordingly, claim 10 includes allowable subject matter and the rejection of the claim should be withdrawn.

Claims 11 and 13-17 depend from claim 10 and are allowable for the same reasons as claim 10, as well as other reasons which, for the sake of brevity, are not discussed.

In light of the amendments and remarks above, the Applicants respectfully request entry of this Amendment and the allowance of claims 1, 3-7, 10, 11 and 13-17. The undersigned is available for telephone consultation at any time.

Respectfully submitted,



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